DOLEJS, L.; HANUS, V.

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Filling system for measuring the mass spectra of nonvolatile organic compounds. Prib. i tekh. eksp. 9 no.1:215-217 Ja-F '64. (MIRA 17:4)

1. Institut fizicheskoy khimii i Institut organicheskoy khimii i biokhimii Akademii nauk Chekhoslovatskoy Sotsialisticheskoy Respubliki, Praga.

CERNY, V.; DOLEJS, L.; SORM, F.

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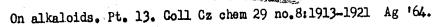
1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

TROJANEK, J.; STROUF, O.; BLAHA, K.; DOLEJS, L.; HANUS, V.

On alkaloids. Pt. 12. Coll Cz chem 29 no.8:1904-1912 Ag '64.

1. Research Institute for Natural Drugs, Prague, Institute of Organic Chemistry and Biochemistry, and Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague.

MOZA, B.K.; TROJANEK, J.; HANUS, V.; DOLEJS, L.



1. Research Institute for Natural Drugs, Prague, Institute of Physical Chemistry, and Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

DOLEJS, L.; HANUS, V.; SLAVIK, J.

A mass spectrometric study of protopine alkaloids. Coll Cz Chem 29 no.10:2479-2483 0 '64.

1. Institute of Organic Chemistry and Biochemistry. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague, and Department of Chemistry, Faculty of Medicine, Furkyne University, Brno.

SANTAVY, F.; KAUL, J.L.; HRUBAN, L.; DOLEJS, L.; HANUS, V.; BLAHA, K.

Constitution of rhoeadine and isorhoeadine. Coll uz unem 30 no.1:335-338 Ja '65.

1. Chemical Institute of the Medical Faculty of Palacky University, Olomouc (for Santavy, Kaul and Hruban). 2. Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague (for Dolejs and Blaha). 3. Institute of Physical Chemistry of the Czechoslovak Academy of Sciences, Prague (for Hanus). Submitted July 22, 1964.

CZECHOSLOVAKIA

VOTICKY, Z.; TOMKO, J.; DOLEJS, L.; HANUS, V.

1. Chemical Institute, Slovak Academy of Sciences, Department of Alkaloids, Bratislava - (for Voticky and Tomko); 2. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague, (for Dolejs); 3. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague (for Hanus).

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0

CZECHOSLOVANIA

BLANA, X; CROSS, A.D.

1. Chemical Institute of the Medical Faculty of Palacky
University, Olomouc (for Santavy, Kaul, Kruban); 2.
Institute of Organic Chemistry and Biochemistry, Prague
(for Bolejs, Blaha); 3. Institute of Physical Chemistry
of the Ozechoslovak Academy of Sciences, Frague (for
Hanus); 4. Syntex Research Center, Palo Alto, California,
U.S.A. (for Cross)

Prague, Gollection of Czechoslovak themical Communications, No 10, 1965, pp 3479-3499

"Constitution of Rhoeadine and Isorhoeadine."

HALA, Slovoj; LANDA, Stanislav; DOLEJS, Pavel

Composition of lighter fractions of Hodonin crude oil. Pt.2. Sbor pal vod VSGAT Vol 5.145-100 [61 [publ. 162].

1. Katedra synthetickych pohonnych latek, Vysoka skola chemicko-technologicka, Praha.

DOLEJS, V.

Pneumatic grips. p. 354.

STROJIRENSKA VYROBA. Vol. 3, no. 9, Sept. 1955

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7 July 1956

NOVAK, Vlastimil; DOLEJS, Vaclav

Conductometric determination of lithium in the presence of sodium, potassium, ammonium, and magnesium. Sbor VSChT Pardubice no.1:39-42 '63.

1. Chair of Analytical Chemistry, Higher School of Chemical Technology, Pardubics.

## "APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000410730008-8

: Czecnoslovakia COUNTRY

CATEGORY

ABS. JOUR.: RZKhim., Ro. 22 1959, Ro.

78433

: Cermak, V., Hanus, V., and Dolejsek, Z. AUTHOR

: Not given 777 551

: The Development of Mass-Spectrometry in Czechos-TITLE

lovakia

ORIG. PUB.: Chem Prumysl, 9, No 3, 126-128 (1959)

: A brief description is given of mass-spectromet-ABSTRACT

ers in use at plants and research institutes in

Czechoslovakia.

Ya. Satunovskiy

CARD: 1/1

AUTHORS:

Hanus, Vladimir; Dolejšek, Zdeněk

TITLE:

Rearrangement of Some C7Hg Isomers Induced by Electron-Impact

Ionization

PERIODICAL:

Jaderná energie, 1960, No. 10, pp. 350 - 352

TEXT:

S. Meyerson and P.N. Rylander (Ref. 1 through 4) have shown that ionization by electron impact in toluene results in the formation of tropylium ions. The authors carried further this study in an attempt to determine the influence of the structure of some other C7H8 isomers on their behavior during ionization, and to learn the possibilities of some mass-spectrometric methods for the study of the structure and properties of ions in gaseous phase. This study has not been completed yet and the paper presents partial results obtained so far. The following C7H8 isomers were studied: cycloheptatriene; toluene; spiro-(2.4)-heptadiene-(1.3); ethynyl cyclopentene-(1); ethynyl cyclopentene-(2); and bicyclo-(2.2.1)-heptadiene-(2.5). The following studied: the relative representation of fragmentation ions in dependence on the ionizing electron energy; the influence of the drawing-out voltage on the mass spectra; and the decomposition of accelerated ions.

Card 1/6

Rearrangement of Some C7H8 Isomers Induced by Electron-Impact Ionization

both spontaneous and induced by collisions with molecules of inert gases. Measurements were performed with a Nier-type mass spectrometer. It was found that the mass spectra of all six compounds, when obtained under similar conditions, were similar with a few exceptions in ethynyl cyclopentene-(1) and bicyclo(2.2.1)-heptadiene-(2.5). The spectra obtained are shown in Figure 1. Also changes of the electric field, by which ions are drawn out of the source, exerted practically the same influence on the mass spectra of all six compounds. It was further found that the definition properties of the instrument depend primarily on the kinetic energy of ions and not on their mass, and that with the exception of metastable ions the time during which ions remain in the source has no appreciable influence. In all compounds studied the same metastable ions were observed, corresponding to the s ontaneous decomposition of ions during their time of flight from the accelerating field slit to the magnetic analyzer. These similarities indicate that the ionizing fragmentation in all six compounds proceeds basically in the same way. The main reaction, common to these isomers, is the formation of a molecular ion with a sevenmembered cyclic structure, which decomposes to tropylium ions by splitting-off of a hydrogen atom. In ethynyl cyclopentene-(1), and even more in bicyclo-(2.2.1)--heptadiene-(2.5), competing side reactions of the decomposition of the excited

Card 2/6

Rearrangement of Some C7H8 Isomers Induced by Electron-Impact Ionization

molecular ions assert themselves in addition to the above main reaction. In the former, the reaction competing with the formation of a fragmentation tropylium ion is the one by which C5H2 is formed, which is then represented in a larger proportion than in cycloheptatriene. In bicyclo-(2.2.1)-heptadiene-(2.5), an increased rate of  $C_5H_6^+$ ,  $C_3H_4^+$  and  $C_3H_3^+$  ions can be observed. The large representation of  $C_5H_5^+$  ions obviously corresponds with the splitting-off of acetylene from the molecular ion. These ions do not decompose further to C5Ht. The similarity of the spectra of the other four compounds indicates that in the rearranged parent ions, which for these compounds have the same structure, the excitation energy is distributed across the entire molecule in such a manner that equilibrium is reached before the fragmentation of parent ions takes place. The differences in the relative representation of molecular ions, tropylium ions, and the remaining fragmentation ions are related to the extent of the excitation energy in the rearranged parent ions, and are obviously due to the difference in the combination heat of the parent compounds. It is remarkable that from the total amount of ions, the portion of molecular ions depends on the combination heat to a far greater extent than the portion of ions formed by the tropylium fragmentation. The possibility cannot be

Card 3/6

Rearrangement of Some C7H8 Isomers Induced by Electron-Impact Ionization

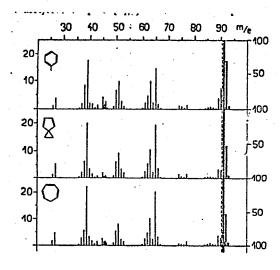
excluded that upon the formation of tropylium ions, or immediately thereafter, before they decompose any farther, an energy emission by radiation transitions takes place, which might reduce the original differences in the extent of the excitation energy of rearranged C7H8 ions formed by ionization from different isomers. Should it become possible to prove that ions with the structure of parent moleculars practically are not represented among the molecular ions of these compounds, then the obtained data would largely contribute towards a more accurate understanding of processes preceding ionization fragmentation of more complicated molecules by electrons with energies in the range of several tens ev. There are 8 figures and 8 references: 7 English and 1 German.

ASSOCIATION: Ústav, fysikální chemie ČSAV (Institute of Physical Chemistry, ČSAV) in Prague

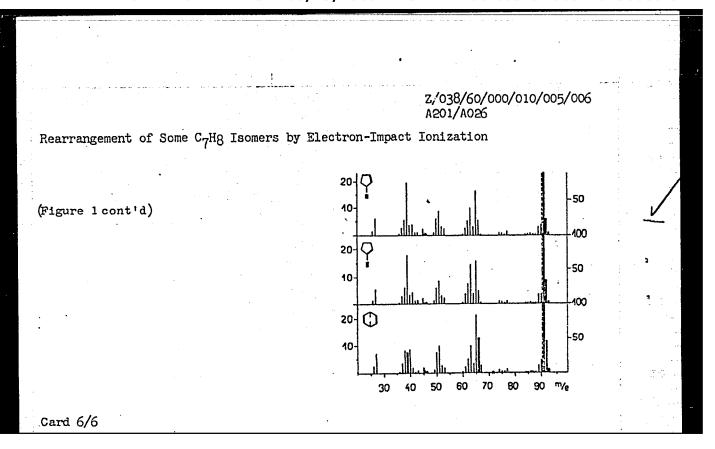
Card 4/6

Rearrangement of Some C7H8 Isomers by Electron-Impact Ionization

Figure 1: Mass spectra of (A) toluene; (B) spiro-(2.4)-heptadiene-(1.3); (C) cycloheptatriene; (D) ethynyl cyclopentene-(2); (E) ethynyl cyclopentene-(1); (F) bicyclo(2.2.1)-heptadiene-(2.5)



Card 5/6



2/009/60/000/011/001/001 E112/E153

**AUTHORS:** 

Dolejšek, Z. Grubner, O. Hanuš, V. Kössler, I. Matyska, B. and Vodehnal, J.

TITLE:

Analytical Control of Isoprene Rectification

PERIODICAL: Chemický průmysl, 1960, No. 11, pp. 571 - 575

TEXT: For the stereoscopic polymerization of isoprene, monomers of sufficiently high quality are essential. Purification of isoprene on a large scale is carried out by distillation processes. Technical isoprene contains various saturated and unsaturated hydrocarbons with 4, 5 or 6 carbons. Separation is accomplished by azeotropic distillation, adding acetaldehyde, propylene oxide, methyl formate, methanol, isopentane, isopropylamine, acetone, water or aqueous acetone as azeotropic agent. As the literature does not contain sufficient data about the boiling points of the different mixtures the authors have undertaken a study of the normal rectification of isoprene on efficient columns and have followed the concentrations of the different components in the various cuts. The effect of water and methyl alcohol as azeotropic agents was also considered. Card 1/6

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### Z/009/60/000/011/001/001 E112/E153

Analytical Control of Isoprene Rectification

Two types of isoprene from different sources were investigated: 1) Soviet material, with 96% isoprene content, and 2) Czechoslovak material, prepared from isobutylene and formaldehyde, with 13% isoprene. The different distillation fractions were analysed by mass spectrography, infrared spectroscopy and gas chromatography, using thermoconductivity cells for detection. chromatogram of sample B (Czechoslovak), e.g. first sample of condensate from still-head is shown (Fig.1), revealing 8 peaks and identified as follows: 1) isobutylene, not isolated in pure state but found in one fraction in an amount of 15% together with 85% 3-methylbutene-1; 2) and 3), peaks appertaining to butene-1 and butene-2 (confirmation of structure through mass spectrography); 4) 3-methylbutene-1 (this compound was isolated from one fraction in 99.5 purity and identified spectroscopically by comparison with data in the literature; 5) 2-methylbutene-1 (this compound was identified by comparison with literature data. It was obtained by fractional distillation in approximately 80% purity. It was also obtained by preparative Card 2/6

### Z/009/60/000/011/001/001 E112/E153

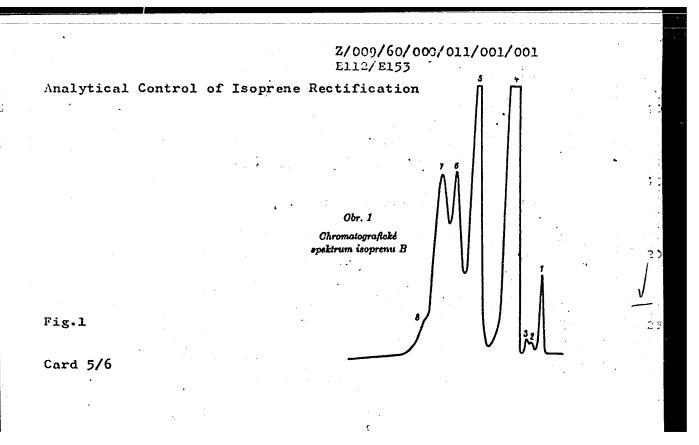
Analytical Control of Isoprene Rectification

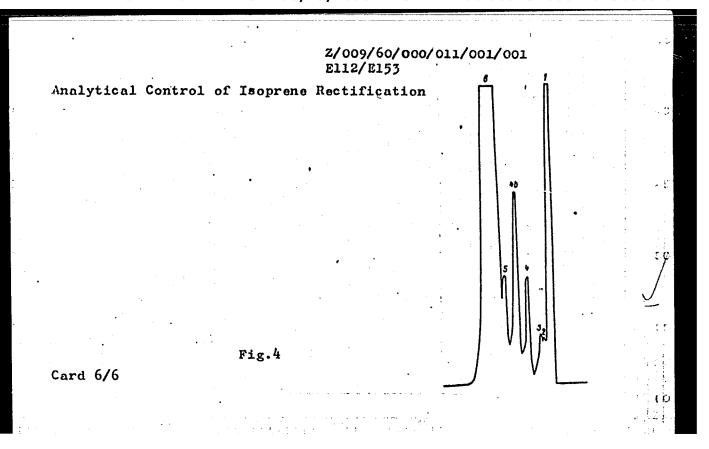
gas chromatography, and both samples proved identical); 6) isoprene: standard prepared by fractional distillation in 99.98% purity and by preparative chromatographic method (ethyl cyclopentanecarboxylate as stationary phase); 7) 2-methylbutene-2 prepared by fractional distillation in 98% purity (identified by method used for 3-methylbutene-1; compound prepared for identification purpose also by preparative gas chromatography). Chromatogram of sample A (Soviet isoprene) revealed similar characteristics. A special peak (4b) was noticed, the identity of which was not yet determined. Results of practical distillation tests were as follows. Sample A was distilled over a low-efficiency column with reflux ratio 13:1. Pentene contents were reduced from 4 to 1.2%, and isoprene of 98.8% purity and in yields of 80% was collected. Using a more efficient column with reflux ratio 40:1 equilibrium was established after 2 hours and isoprene of 99.98% purity was obtained in poor yields. Attempts to improve yields by the addition of azeotropic agents (methanol, water) failed. Distillation of sample B was undertaken Card 3/6

#### Z/009/60/000/011/001/001 E112/E153

Analytical Control of Isoprene Rectification

over a column with reflux ratio 4:1. The concentration of isoprene in the middle fraction was doubled and the distillate contained only four components: 3-methylbutene-1; 2-methylbutene-1; isoprene; 2-methylbutene-2. A further fractionation over a column with reflux ratio 25:1 yielded further fraction, from which only those containing 2-methylbutene-1, isoprene and 2-methylbutene-2 were collected. Distillation of the three combined fractions over a column with reflux ratio 40:1 gave a two-component mixture in which the pentene concentration amounted By azeotropic distillation with acetone, to only 13%. conversion into high-grade isoprene could be achieved. It is claimed that yields were satisfactory. Acknowledgements are made to Doctor J. Pech, director, VUSK Gottwaldov for useful advice and for supplying some of the raw materials. There are 6 figures, 4 tables and 16 references (including several patents to one reference): 11 English, 4 Czech and 1 Soviet. Ústav fyzikální chemie ČSAV, Praha (Institute for ASSOCIATION: Card 4/6 Physical Chemistry, ČSAV Prague) SUBMITTED: June 6, 1960





AUTHORS: Dolejšek, Z., Grubner, O., Hala, E., Hanuš, V., and

Kossler, I.

TITLE: Contribution to the purification and analysis of

isoprene. II.

PERIODICAL: Chemicky průmysl, 1961, No.7, pp. 361-363

TEXT: The production of polyisoprene requires the use of a monomer of highest purity. Distillation methods are suggested for the isolation of isoprene; it is stated that recovery processes will be successful if based on a thorough knowledge of vaporliquid equilibrium data of the main components of technical isoprene. The present paper describes the determination of equilibrium data for mixtures of 2-methylbutene-1 (component 1), isoprene (component 2) and 2-methylbutene-2 (component 3). The above components were first purified and their mixtures then studied in a modified vapor-liquid equilibrium still, developed originally by D.T.C. Gillespie (Ref.2: Ind.Eng.Chem. A.E., 18, 575 (1946). A diagram of the apparatus is shown in Fig.1 and the experimental procedure is described. (A - inlet tube, C - Cottrell pump, Card 1/6

Contribution to the purification and analysis of isoprene. II.

E - equilibrium chamber, CH - condenser, K, P - sample chambers, R - disengagement chamber, V - boiler). In operation, sample chambers K, P and boiler V are filled with a measured quantity of the hydrocarbon mixture and the boiling rate adjusted so as to maintain the steady pumping of liquid and vapour through the Cottrell tube. After allowing sufficient time of operation to ensure steady conditions within the apparatus, samples of the boiling liquid and condensed vapour are withdrawn from chambers K and P by means of a cooled syringe and collected in glass ampoules for analysis. Analytical data are tabulated which enable the calculation of the correlation between relative volatility and composition of the liquid phase. The equation for a binary system is as follows:

$$a_{12} = \frac{y_1}{x_1} \frac{x_2}{y_2} = \frac{1 + 0.102 x_2}{1 - 0.093 x_1}$$
 (1)

$$a_{13} = \frac{y_1}{x_1} \frac{x_3}{y_3} = \frac{1 + 0.410 x_3}{1 - 0.291 x_1}$$
 (2)

Contribution to the purification and analysis of isoprene. II

$$a_{23} = \frac{y_2}{x_2} \frac{x_3}{y_3} = \frac{1 + 0.180 x_3}{1 - 0.083 x_2}$$
 (3)

where:  $x_1$ ,  $x_2$ ,  $x_3$  are molar fractions of components 1, 2 and 3 in the liquid phase;  $y_1$ ,  $y_2$ ,  $y_3$  are molar fractions of components 1, 2 and 3 in the vapour phase; and  $a_{12}$ ,  $a_{13}$ ,  $a_{23}$  the relative volatilities of the subscript components. Ternary systems follow the following equations:

$$\mathbf{a}_{13} = \frac{\mathbf{y}_1}{\mathbf{x}_1} \frac{\mathbf{x}_3}{\mathbf{y}_3} = \frac{1 + 0.410 \ \mathbf{x}_3 + 0.102 \ \mathbf{x}_2}{1 - 0.291 \ \mathbf{x}_1 - 0.083 \ \mathbf{x}_2}$$
(4)

$$\mathbf{a}_{23} = \frac{\mathbf{y}_2}{\mathbf{x}_2} \frac{\mathbf{x}_3}{\mathbf{y}_3} = \frac{1 + 0.180 \ \mathbf{x}_3 - 0.093 \ \mathbf{x}_1}{1 - 0.083 \ \mathbf{x}_2 - 0.291 \ \mathbf{x}_1}$$
 (5)

The composition of the gaseous phase in equilibrium can be computed from the composition of the liquid phase by equations:

Card 3/ 6

Contribution to the purification and analysis of isoprene. II.

$$y_1 = \frac{a_{13} \frac{x_1}{x_3}}{1 + a_{13} \frac{x_1}{x_3} + a_{23} \frac{x_2}{x_3}}$$
 (6)

$$y_{2} = \frac{a_{13} (x_{2} / x_{3})}{1 + a_{13} \frac{x_{1}}{x_{3}} + a_{23} \frac{x_{2}}{x_{3}}}$$
 (7)

$$y_3 = 1 - y_1 - y_2$$
 (8)

The authors conclude from Eqs. (1) to (5) that binary or ternary azeotropes are absent from the system isoprene: 2-methylbutene-1 and 2-methylbutene-2, although this is in disagreement with the finding of M. Lecat (Ref.7: Ann. Soc. Sci. Bruxelles, 63, 58 (1949). The validity of the findings of the Czechoslovak authors was confirmed by practical distillation results, which will be utilized Card 4/6

Contribution to the purification and analysis of isoprene. II. for the study of the economics of industrial isoprene recovery for the production of synthetic rubber.

There are 1 figure (diagram of Gillespie apparatus), 2 tables (results of analyses) and 9 references: 6 Czech, 2 English and 1 French. The English language references read as follows: Ref. 2: D.T.C. Gillespie, Ind. Eng. Chem. A.E., 18, 575 (1946).

Ref. 8: L.H. Horsley, Azeotropic data. Washington, 1954, No. 7837.

ASSOCIATION: Ustav fyzikální chemie Československé akademie véd,

ASSOCIATION: Ustav fyzikalni chemie Ceskoslovenske akademie ved,
Praha

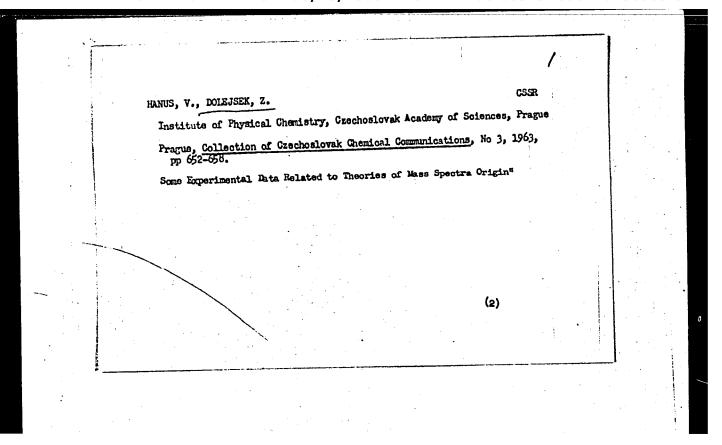
(Institute of Physical Chemistry, Czechoslovak AS,

Prague)

SUBMITTED: November 14, 1960

Card 5/6

# "APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000410730008-8



CZECHOSLOVAKIA

DOLEJSEK, Z.; HALA, S.; HANUS, V.; LANDA, S.

1. Institute of Physical Chemistry, Czechoslovak Academy of Sciences (for Dolejsek and ?); 2. Laboratory of Synthetic Fuel and Oil, Prague (for Landa? and ?)

Prague, <u>Collection of Czechoslovak Chemical Communications</u>, No 2, Feb 1966, pp 435-449

"Adamantane and its derivatives. Part 8: Mass spectra of derivatives of adamantane formed by substitution at C(1)."

DOLETSI, Cestmir

MATOUSEK, Jaroslav, Dr.; DOLEJSI, Cestmir, Dr.; JANSKY, Rudolf

Glinical significance of erythrocyte paste; preliminary report. Gas. lek. cesk. 93 no.48:1313-1314 26 Nov 54.

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1. Z krajske transfusni stanice a urasoveho odd. v Usti n.L.
(MRYTHROCYTES,
paste, clin. significance)
(OINTMENTS
erythrocyte paste, clin. significance)

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Mission, Armost, DCC. Dr.; DOLENSI, Ceetmir, prit. Dr.; SYNCE, leads her prin. Dr.

Chiterating an impathies of miners and their relationship to considents. Proceeding lek. 9 no.1:51-53 Mar 57.

1. Frajsky ustav narodniho zdravi Usti and Labem.

(THROMEDOANGLITIS OBLITERANS, etiol. & mathoger.

indust. inj. in miners (Cz))

(OCCUPATIONAL DISEASES, compl.

thromboangiitis obliterans caused by indust. inj.

in miners (Cz))
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ADAM, E.; BURIAN, V.; KUBATOVA, E.; DOLEJSI, H.; DVORAK, K.; SKVRNOVA, K.; ZIKMUND, V.

Vaccination of susceptible adults against influence with inactivated vaccine. Cas. lek. cesk. 104 no.23:614-621 11 Je'65.

1. Ustav ser a ockovacich latek (klin. epid. odbor) v Praze (reditel: dr. J. Malek); Vyzkumny ustav experimentalni terapie v Praze (reditel: prof. dr. O. Smahel); Ustav epidemiologie a mikrobiologie v Praze (reditel: prof. dr. K. Raska); Interni oddeleni nemocnice ve Inarich (vedoucis MUDr. K. Dvorak); Ckresni hygienicko-epidemiologicka stanice v Liberci (reditel: MUDr. J. Marecek).

VACEK, M.; DOLEJSI, J.; REJSEK, K.; STRITESKY, J.

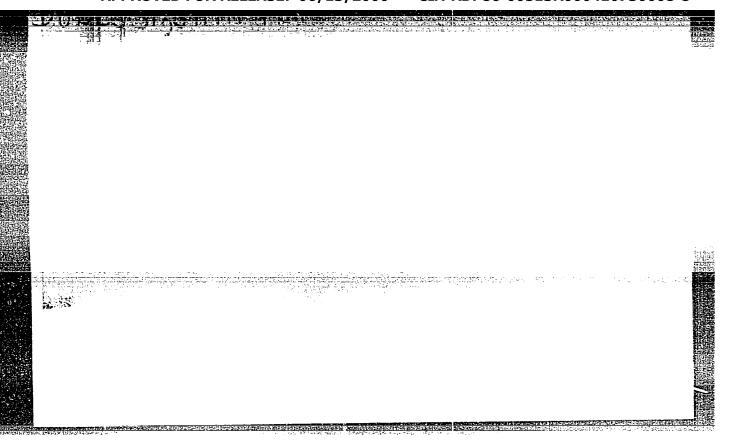
Realth status of industrial workers. Cesk. zdravot. 6 no.9:492-510
Sept 58.

(INDUSTRIAL HYGIENE health status of indust. workers (Cz))

STRIBRNY, Antonin; DOLEJSI, Josef

Saving power in the building material industry during the second five-year-plan. Energetika Cz 11 no.5:249-251 My !61.

# "APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000410730008-8



#### "APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000410730008-8

CZECHCSLOVAKIA/Optics - Instruments for Optical Analysis

K-2

Abs Jour

: Ref Zhur - Fizike, No 8, 1958, No 19349

Author

: Dolejsi. J.

Ir.st Title : Czechoslovek Academy of Sciences, Frague, Gzechoslovekia : Simple Illuminating Device for Simultaneous Photographic

Recording of Several Electric Phonomena.

Orig Fub

: Jomna Hech. a opt., 1957, 2, No 5, 158

Abstract

: The illuminator described contains, on the surface of the condenser, an opaque leyer of metal on which lines ere drawn. Light beams traveling from each line are reflected by mirrors of individual galvanometers. The images of the lines are projected on the slit of the recording photographic apparetus. One obtains on the film several curves

corresponding to the number of the gelvenometers.

Cerd

: 1/1

#### "APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000410730008-8

DOLEJSI J

CZECHOSLOVAKIA Optics - Luminescence.

K

Abs Jour

: Ref Zhur Fizika, No 1, 1960, 2117

Author

: Dolejsi, J., Kanturek, J., Bohun, A., Truka, J.

Inst

• -

Title

: Luminescence, Coloring and Excelectronic Emission by Different Methods from Colored Crystals of CaF<sub>2</sub>

Orig Pub

: Ceskosl. casop. fys., 1958, 8, No 4, 453-464

Abstract

: To observe certain optical and electrical phenomena in CaF<sub>2</sub> crystals, the authors have used a complex method, consisting of measuring two quantities that characterize simultaneously the porucesses that take place. One of these was always the integral thermoluminescence, while the other was either the thermoluminescence, while the other was either the thermoluminescence as a function of the frequency. The measurements were carried out at a constant temperature or at a temperature that was gradually increasing

Card 1/3

CZECHOSLOVAKIA/Optics - Luminescence.

K

Abs Jour

: Ref Zhur Fizika, No 1, 1960, 2117

using crystals of CaF2, dyed photochemically, additively, or by a combination of both methods. The following can be concluded from the measurement results: 1) the complex method makes it possible to obtain more accurate information on the defects in real crystals; 2) by choice of heat treatment and coloring it is possible to locate the principal maxima of thermoemission near 370, 480, and 6500 K, corresponding to the absorption bands near 3600, 5200, and above 5800 A; 3) the presence of colloidal formations in the crystal does not prevent the observation of all three types of color centers, the absorption bands of which overlap the colloid bands; 4) thermoabsorption in CaF, cannot be placed in a one to one correspondence with the maxima of luminescence and exommission, owing to the overlap of the absorption bands at high temperatures;

Card 2/3

- 120 -

CZECHOSLOVAKIA/Optics - Luminescence.

K

Abs Jour

: Ref Zhur Fizika, No 1, 1960, 2117

5) the spectral analysis of thermoluminescence shows that in luminescence processes impurities of heavy metals play a substantial role, such as copper. The observed emission band near 3,850 Å belongs apparently to this element. -- V.Kopetskiy

Card 2/2

Κ

CZECHOSLOVAKIA/Optics - Luminescence.

Abs Jour

: Ref Zhur Fizika, No 2, 1960, 4535

Author

: Dolejsi, J., Kanturek, J., Bohun, A., Trnka, J.

Inst Title : Luninescence, Coloring, and Excelectronic Emission of

CaF2, Colored by Various Means

Orig Pub

: Chekhosl. fiz. zh. 1958, 8, No 5, 548-556

Abstract

: A complex method was used to investigate the absorption, thermoluminescence (TL), and exomelectronic emission (EE) of various naturally and artificially grown crystals of CaF2 (ten samples), colored photochemically, additively, or by a combination of both methods, or else those subjected to heat treatment prior to coloring. The measurements were made of the absorption spectrum, the TL spectrum, and a simultaneous measurement of the integral TL and one of the following characteristics: 1) TL at a

definite wave length (through a monochromator),

Card 1/3

Cych Acad Sei Prague

CZECHOSLOVAKIA/Optics - Luminescence.

: Ref Zhur Fizika, No 2, 1960, 4535

2) thermal discoloring, 3) EE. The results for various crystals are quite different. In all the investigated crystals one can, by suitable heat treatment and coloring, attain a situation whereby the principal maximum of thermally stimulated EE are located 370, 480 and 6500 K (rate of heating 20/sec), and the corresponding absorption bands are located near 5800 A and near 5200 and 3600 A. The curves of thermal discoloration have qualitatively the same appearance for all wave lengths in the visible and the ultraviolet regions. This is due to the strong overlap of the individual absorption bands and makes it impossible to employ the method of thermal discoloration for a mutual comparison of the maxima of thermally stimulated EE, TL, and absorption. In crystals colored by the combined method, only the first low temperature maxima of TL and EE coincide (4400 K). The EE has another strong maximum at 6500 K, but the luminescence

Card 2/3

Abs Jour

- 110 -

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K

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CZECHOSLOVAKIA/Optics - Luminescence.

K

Abs Jour : Ref Zhur Fizika, No 2, 1960, 4535

here is not observed. The spectral composition of TL indicates the important role of impurities of heavy metals in the luminescence process; the 3,850-Å emission band probably belongs to copper. -- Kh.F. Kynembre

Card 3/3

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| DOLEJSI,   | J.  |
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| 3.4<br>2.5 | Distr: 4E2d(b) 2 cys/4E3a(w) 2 cys  |
|            | The excelectron and thermionic electron emissions of aeveral alkali halides. Antonin Bohun and Jarmila Dolejši /- KR (MS) (Czechoslov. Acad. Sci., Prague). Czechoslov. J. Phys. 9, 578-89(1959)(in German). authors compare the exptl. 1-RS and theoretical thermionic emission curves of the monomol. |
|            | and bimol. processes of NaCl and CaF <sub>2</sub> crystals which contain F centers. The influence of the work function on the position and intensity of the thermionic maxima is considered. The results permit some conclusions concerning the emission from oxide-coated cathodes. A. Kremballes.     |
|            | ON  |
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Z/055/62/012/005/006/009 I030/I230

**AUTHORS:** 

Dolejší, J. and Trnka, J.

TITLE:

The X-ray luminescence of NaCl crystals containing elements of the iron group

PERIODICAL: Chekhoslovatskiy fizicheskiy zhurnal, v. 12, no. 5, 1962, 375-382

TEXT: NaCl crystals containing from 0.01 to 0.1 mole % of Fe, Co, or Ni were grown from solution and from melt. Spectrophotometer curves between 3000 and 7000 Å were obtained of the luminescence emitted by these crystals under X-ray irradiation, at room temperature and at 450°K. Three emission bands were observed in the visible region at 5830Å, 6210Å, 6830Å for Fe; at 5810Å, 6130Å, 6580Å for Co, and at 5820Å, 6130Å, 6700Å for Ni. All crystals, both pure and with added elements, show an emission band of unknown origin at 4300Å. Crystals grown from melt, both pure and with additions also have a band at 3600Å, probably due to hydrolysis products. Co-containing crystals grown from solution and from melt give different relative intensities. This is ascribed to the influence of water on Co-ions. Fe-containing crystals grown from melt emit no bands in the visible region. Slight variations of intensity with temperatures were observed There are 6 figures and 1 table. This is a continuation of previous work eited in the references.

ASSOCIATION: Inst. f. Festkorperphysik der Tschechosl. A. d .W. (Institute for Solid State Physics,

Cz AS), Prague.

SUBMITTED:

November 13, 1961

Card 1/1

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Photoluminescence and related phenomena of NaCl crystals containing Cd and Co. Acta phys Hung 14 no.2 3:246-253 '62.

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(HEARING DISORDERS, in inf. & child

preschool child., differ. diag. from ment. defic. (Gz))

(MENTAL DEFICIENCY, differ. diag.

from hearing disord. in preschool child. (Gz))

CZECHOSLOVAKIA

M. DOLEJSI, Childrens' Department of Psychiatric Hospital (detske oddelení psychiatricke lecební,) Havlickuv Brod.

"Measures of Aspirations in Neurotic Children and in Children with Personality Defects."

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Abstract: Study of 20 children of normal intelligence aged 12-13, 10 with neurotic tendencies and 10 behavioral defects; level of aspiration and of self-evaluated capacity in simple manual tests. Neurotics tended to perform better, over-value their performance while behaviorally disturbed children underestimated theirs. Conclusion that tests of this type are very promising. One Czech and 1 US reference.

1/1

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abstract [English summary modified]: Study of 253 children admitted by recommendation to special schools for mentally retarded: 49 had normal intelligence with various types of emotional disturbance, and 38 had slight intellectual maldevelopment but no true retardation. Criteria and methods of selection of candidates for special schools of this type need to be changed. Complete discussion of methods used, results and conclusions. Table, 5 graphs; 35 Czech, 8 Soviec, 20 Western references.

1/1

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(SEX CHARACTERISTICS
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(WORK
inability to work, age & sex factors (Cz))
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1. Department of Pharmacology, Faculty of General Medicine, Charles University, Prague.
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(BLOOD PRESSURE) (BLOOD FLOW VELOCITY) (FATTY ACIDS)

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## DOLENC, Anton, prof.

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1. Faculties of Electrical Engineering at Zagreb and Ljubljana. Chairman, Federal Technical Committee for Automation.

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\*60.

(Water)

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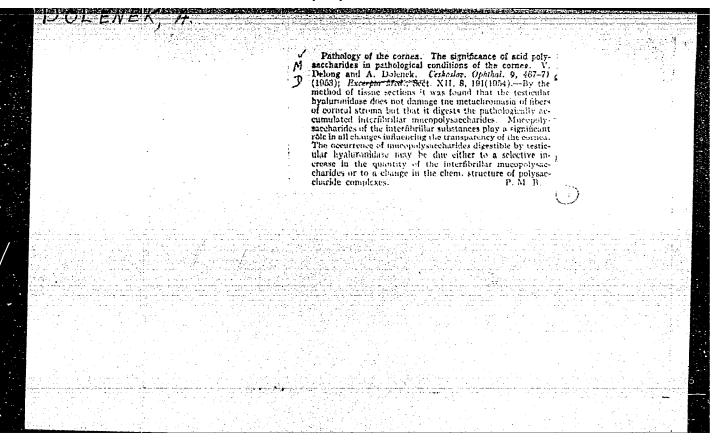
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# DOLENEK, A., Dr

Some considerations on the energetics of the eye. Cesk. ofth. 10 no.5:281-285 Oct 54.

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(EYE, physiology
energetics, role of adenosintriphosphoric acid)

Dolainek, A.
EMCERPTA MEDICA Sec. 12 Vol. 9/6 Ophthalmology Jun 55

B65. DOLÉNEK A. Ocní Klin. lék. Fak. PU, Olomouc. \* Úvaha o některých problémech energetiky oka. So me considerations on the energetics of the éye ČSL.OFTHAL. 1954, 10/5 (281-285)

The metabolic cycle is conditioned by the energetic one. According to the literature the adenosinetriphosphoric acid is the only directly available source of energy. The author suggests that ATPA plays this important part also in the eye, especially in reparatory processes in the cornea, as in its absence synthesis of living matter is impossible. A hypothesis is proposed suggesting that adenosinetriphosphoric acid is the ultimate link maintaining the deturgescent, energetically rich, clear cornea. This may be of importance in accommodation fatigue too, this latter condition being an analogy to Hegglin's myocardosis. Prognosis of retinal detachment could be determined much better from the level of ATPA than from the level of glucose in the subretinal fluid. ATPA might contribute to the solution of problems concerning the growth of vitreous and even the problems of glaucoma are to be solved from the standpoint of tissue energetics. A reliable histochemical proof of ATPA would be of great importance in ophthalmology.

Zahn - Prague

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(IYMPHATIC SYSTEM, diseases
ocular manifest.)
(EYE, diseases
in lymphatic system dis.)

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(BRAIN, neoplasms, causing compression of optic disk, early diag.)